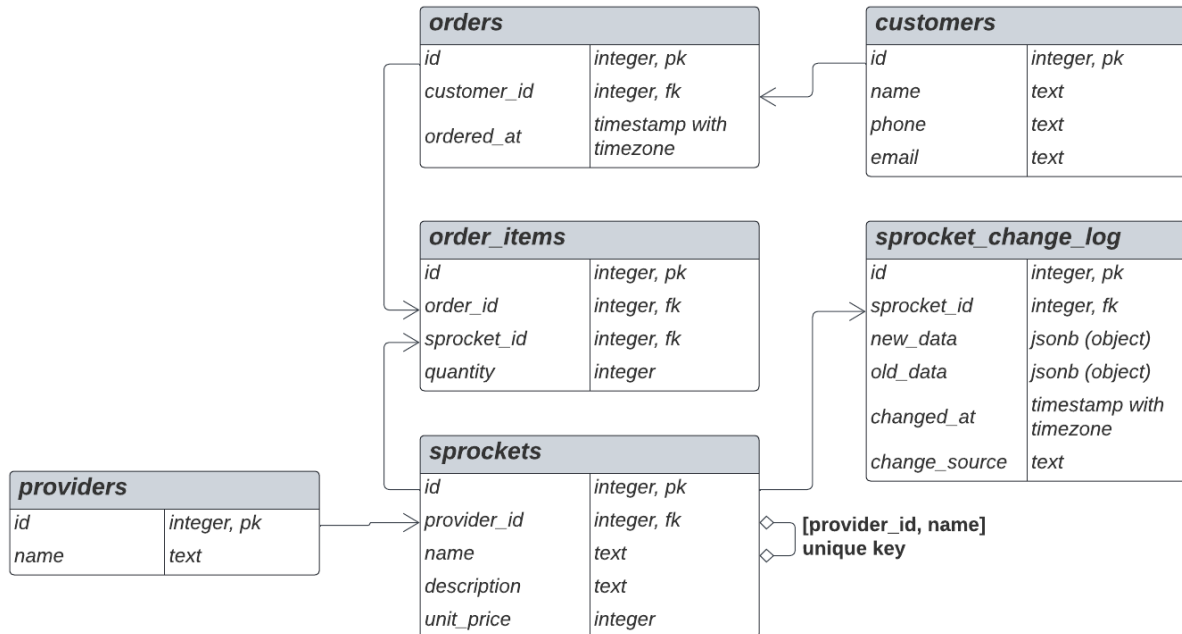


# SQL Technical Interview



## Background

We operate a sprocket marketplace that sells hundreds of millions of different sprockets on behalf of a large number of providers to a North American customer base. A customer order may include a varying set of sprockets from a variety of providers. The price of sprockets changes frequently so we update their prices and track those changes in a change log that is over a billion records.

Due to overwhelming demand for our sprockets, our database is pushed to its limits during the business day processing millions of orders during our peak hours of operation.

## Task 1: Querying data

A provider (ID: 1024) has asked for a report of their top 25 (in purchase total) customers from the past three months.

- Describe how you would approach fulfilling this request.

- Write the query.

## **Task 2: Reverting a change**

A provider (ID: 2048) mistakenly imported a new sprocket price list causing many of their sprockets to be priced incorrectly. Sadly, their inventory manager is on vacation so they do not have access to the old price list and they need to restore the previous prices quickly. Fortunately, we have a table that stores any changes to the sprockets table. We need to revert the `unit_price` values to the values that were changed at exactly 12PM UTC on July 1, 2023 with a source of `"employee_id_4"`

- Describe how you would approach fulfilling this request.
- Write the query.

## **Task 3: Dealing with a large data update via CSV**

A provider (id: 4096) has provided you a 10 million row csv file with each row having the columns: `"name"`, `"description"`, `"unit_price"`. They would like you to insert the data into the sprockets table.

- Describe how you would approach fulfilling this request.
- Write the query.